

OCT 04 2006

**FAX TRANSMISSION**DATE: OCTOBER 4 2006

PTO IDENTIFIER: Application Number 10/584,783

Patent Number

Inventor: Thorsten JOHANN et al.

MESSAGE TO: US Patent and Trademark Office

FAX NUMBER: (571) 273-8300

FROM: CONNOLLY BOVE LODGE &amp; HUTZ LLP

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Attorney Dkt. #: 13156-00060-US

PAGES (Including Cover Sheet): 8**CONTENTS:**

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Transmittal of Translation of International Preliminary Examination Report (1 pg.)

Translation of International Preliminary Examination Report (5 pgs.)

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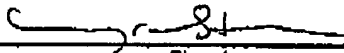
Application No. (if known): 10/584,783

Attorney Docket No.: 13156-00060-us

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Transmittal of Translation of International Preliminary Examination Report  
(1 pg.)

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OCT 04 2006

Docket No.: 13156-00060-US  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Thorsten JOHANN et al.

Application No.: 10/584,783

Confirmation No.: N/A

Filed: June 28, 2006

Art Unit: N/A

For: METHOD FOR THE PRODUCTION OF  
BUTADIENE AND 1-BUTENE

Examiner: Not Yet Assigned

**TRANSMITTAL OF TRANSLATION OF INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

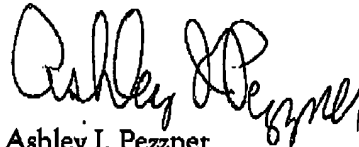
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicants submit herewith a translation of the International Preliminary Examination Report ("IPER") issued in the corresponding international application.

The reference cited in the IPER was cited in an Information Disclosure Statement filed by Applicants. The International Bureau of WIPO has deemed that claims 1-4 have novelty, inventive step and industrial applicability. Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 13156-00060-US from which the undersigned is authorized to draw.

Respectfully submitted,  
CONNOLLY, BOVE,  
LODGE & HUTZ, L.L.P.



Ashley I. Pezzner  
Registration No. 35,646  
Attorney of Record

CUSTOMER NUMBER

**23416**

Phone: 302-658-9141

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## PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)

(PCT Rules 44bis(3)(c) and 72(2))

Isenbruck, Günter  
Isenbruck, Bösl, Hörschler, Wichmann, Huhn  
Theodor-Heuss-Anlage 12  
68165 Mannheim  
ALLEMAGNE

To:

ISENBRUCK, Günter  
Isenbruck, Bösl, Hörschler, Wichmann, Huhn  
Theodor-Heuss-Anlage 12  
68165 Mannheim  
ALLEMAGNE

B1	
B2	
B3	
Sekr.	
EDV	
Abg.	

Date of mailing (day/month/year) 08 September 2006 (08.09.2006)	13. Sep. 2006	IMPORTANT NOTIFICATION
Applicant's or agent's file reference B03/0762PC	Frist: Verfrist: VV:	
International application No. PCT/EP2004/014835	International filing date (day/month/year) 30 December 2004 (30.12.2004)	
Applicant BASF AKTIENGESELLSCHAFT et al		

## 1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. +41 22 338 82 70

Authorized officer

Agnes Wittmann-Regis

Facsimile No. +41 22 338 82 70

## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference B03/0762PC	FOR FURTHER ACTION		See item 4 below
International application No. PCT/EP2004/014835	International filing date ( <i>day/month/year</i> ) 30 December 2004 (30.12.2004)	Priority date ( <i>day/month/year</i> ) 30 December 2003 (30.12.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant BASF AKTIENGESELLSCHAFT			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Box No. I  | Basis of the report   |
| <input type="checkbox"/> Box No. II            | Priority  |
| <input type="checkbox"/> Box No. III           | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/> Box No. IV            | Lack of unity of invention  |
| <input checked="" type="checkbox"/> Box No. V  | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input checked="" type="checkbox"/> Box No. VI | Certain documents cited   |
| <input type="checkbox"/> Box No. VII           | Certain defects in the international application  |
| <input type="checkbox"/> Box No. VIII          | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 338 82 70	Date of issuance of this report 29 August 2006 (29.08.2006)
	Authorized officer  Agnes Wittmann-Regis  e-mail: pt06@wipo.int

Form PCT/IB/373 (January 2004)

## PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

TRANSLATION  
PCTWRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference <b>B03/0762PC</b>		Date of mailing (day/month/year) <b>See Form PCT/ISA/210 (Sheet 2)</b>
International application No. <b>PCT/EP2004/014835</b>		FOR FURTHER ACTION See paragraph 2 below
International filing date (day/month/year) <b>30.12.2004</b>	Priority date (day/month/year) <b>30.12.2003</b>	
International Patent Classification (IPC) or both national classification and IPC <b>C07C5/333, C07C11/167</b>		
Applicant <b>BASF AKTIENGESELLSCHAFT</b>		

## 1. This opinion contains indications relating to the following items:

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input checked="" type="checkbox"/> | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application  |

## 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

## 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

Form PCT/ISA/237 (cover sheet) (January 2004)

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/014835

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
- a. type of material
- ☐ a sequence listing
- ☐ table(s) related to the sequence listing
- b. format of material
- ☐ in written format
- ☐ in computer readable form
- c. time of filing/furnishing
- ☐ contained in the international application as filed.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/EP2004/014835

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
<b>1. Statement</b>			
Novelty (N)	Claims	1-4	YES
	Claims		NO
Inventive step (IS)	Claims	1-4	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-4	YES
	Claims		NO

**2. Citations and explanations:**

Reference is made to the following document:

✓ D1: GB 628 686 A (UNIVERSAL OIL PRODUCTS COMPANY)  
2 September 1949 (1949-09-02)

The present application relates to a process for preparing butadiene and 1-butene, comprising reaction steps (A)-(G).

D1 constitutes the closest prior art and differs from the subject matter of claim 1 in that the features of steps (E)-(G), specifically the "separation of the C4 product gas stream d into a stream e1 consisting essentially of n-butane and 2-butene and a product-of-value stream e2 consisting essentially of butadiene by extractive distillation, and the feeding of stream e1 and a cycle stream g comprising essentially 1-butene and 2-butene into a distillation zone, and separation into a 1-butene-rich product-of-value stream" are not disclosed.

The objective technical problem can therefore be considered that of providing a further process for preparing butadiene.

Form PCT/ISA/237 (Box No. V) (January 2004)